WHAT IS CLAIMED IS:

1. An apparatus for processing a block of data representing at least one symbol, the apparatus comprising:

a jitter compensation filter for performing a filtering operation on said block of data to generate a filtered block of data, the jitter compensation filter having an update input for receiving a filter coefficient update signal; and

an error calculation module coupled to the update input of the jitter compensation filter, the error compensation module generating the filter coefficient update signal from at least one signal error estimate made from the filtered block of data output by the jitter compensation filter.

2. The apparatus of claim 1, further comprising:

a control circuit coupled to said error calculation circuit for determining as a function of said at least one error estimate, when to output said filtered block of data.

3. The apparatus of claim 1, further comprising:

a channel compensation circuit for receiving said block of data and performing a channel compensation operation on at least a portion of said block of data prior to the block of data being processed by said jitter compensation filter.

4. The apparatus of claim 3, wherein said block of data represents a plurality of symbols, the apparatus further comprising:

demodulator circuitry coupled to an output of the jitter compensation filter.

5. The apparatus of claim 1, where the error calculation module includes:

means for generating a decision directed error value.

6. The apparatus of claim 5, wherein the error calculation module further includes:

means for generating a pilot directed error value; and

a selection device for selecting one of the decision directed error value and the pilot directed error value to be output.

7. The apparatus of claim 5, wherein said error estimation module future includes:

means for generating a non-decision directed error value; and

a selection device for selecting one of the decision directed error value and the non-decision directed error value to be output.

9. The apparatus of claim 1, where the error calculation module includes:

means for generating a non-decision directed error value.

10. The apparatus of claim 1, further comprising:

an input buffer for storing said block of data while it is processed multiple times by said jitter compensation filter.

11. The apparatus of claim 10, further comprising:

an output control device for determining when to output the filtered block of data generated by said jitter compensation filter.

12. The apparatus of claim 11, wherein the output control device includes:

means for determining when said block of data has been filtered a fixed number of times by the jitter compensation filter.

13. The apparatus of claim 11,

wherein the output control device includes an input for receiving the filter coefficient update signal generated by said error calculation module; and

wherein the jitter compensation filter further includes means for resetting filter coefficient values to a set of initial values in response to a reset signal generated by said output control device.

14. A system for processing a multi-tone signal, the system including:

a channel compensation module for performing a channel compensation operation on said multi-tone signal; and

a jitter compensation module coupled to an output of the channel compensation module for performing a jitter reduction operation on the channel compensated multi-tone signal.

15. The system of claim 14, wherein the jitter compensation module includes:

a jitter compensation filter with programmable filter tap weights; and

means for iteratively updating the filter tap weights as a function of the jitter compensation filter output.

16. The system of claim 15, further comprising;

a control circuit for determining when the output of the jitter compensation filter should be used as the output of the jitter compensation module.

17. The system of claim 15, wherein the means for iteratively updating the filter tap weights includes:

a signal error estimation circuit for generating from the output of the jitter compensation filter a measure of a symbol error.

18. The system of claim 17, further comprising:

means for resetting the jitter compensation filter tap weights to an initial set of values in response to the control circuit determining that the output of the jitter compensation filter should be used as the output of the jitter compensation filter.

19. A method of using a filter having a plurality of tap weights to reduce the effect of phase jitter on a block of data representing at least one transmitted symbol, the method comprising the steps of:

i) operating said filter to filter said block of samples to produce a filtered block of data;

ii) determining a signal error from the filtered block of data;

iii) updating at least one of said plurality of tap weights in said filter as a function of the determined signal error; and

iv) repeating steps i, ii, and iii until a filter updating stop criterion is satisfied.

20. The method of claim 19, further comprising the step of:

supplying the filtered block of data output by said filter when said filter updating criterion is satisfied to subsequent receiver circuitry.

21. The method of claim 19, wherein said filter updating stop criterion is the completion of a fixed number of filtering operations on said block of data.

22. The method of claim 21, wherein said filter updating criterion is a failure in the signal error to exhibit an improvement over the previous signal error.

23. The method of claim 19, wherein said step of determining a signal error includes generating a decision directed error value.

24. The method of claim 19, wherein said step of determining a signal error includes generating a non-decision directed error value.

25. The method of claim 19, further comprising:

prior to performing step i, performing a channel compensation operation on said block of data.

26. The method of claim 25, a single channel compensation operation is performed on the block of data in a first period of time; and

step i, ii and iii are performed multiple times in a time period which is equal to or shorter than the first time period.